JP2005-050060

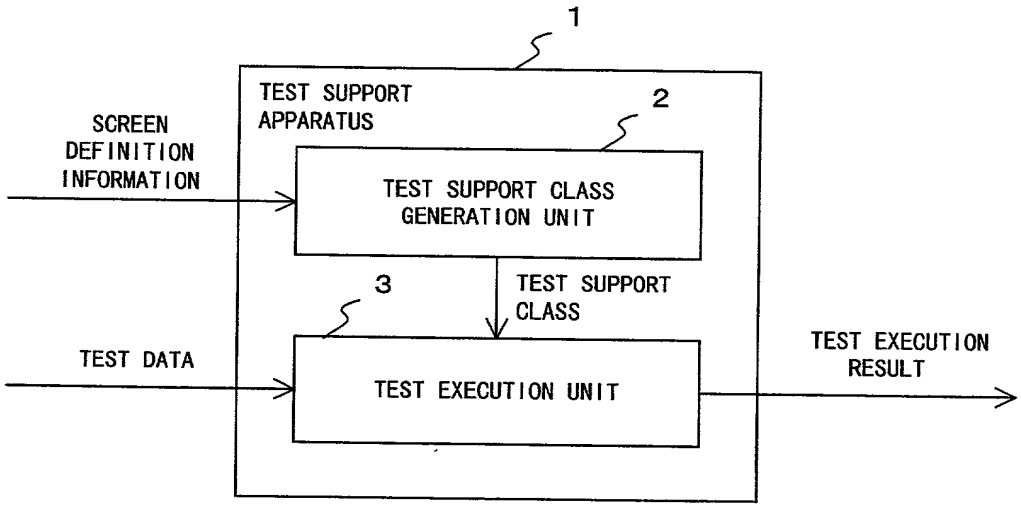


FIG. 1

Copied from 09/754,059

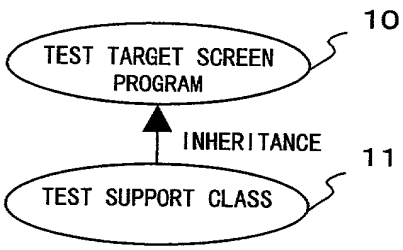


FIG. 2

JP2004-094854A

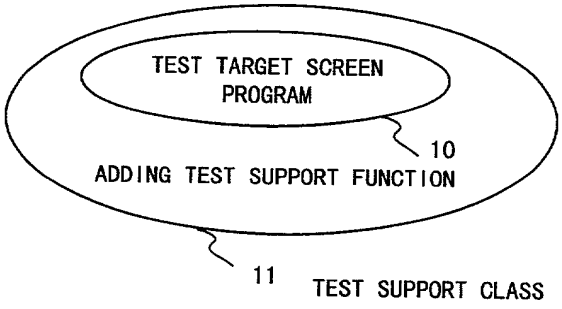


FIG. 3

Translation of the relevant passages of Japanese Patent Application Laid-Open No. 2001-134468

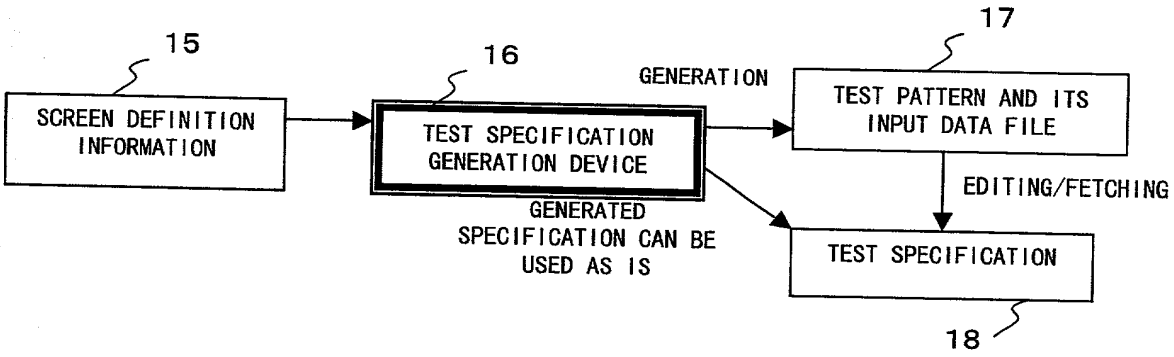


FIG. 4

Document ID: US 2005/0268285 A1

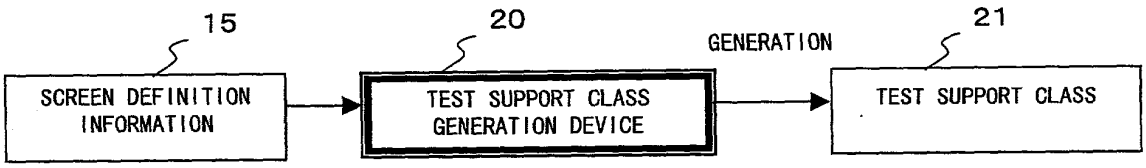


FIG. 5

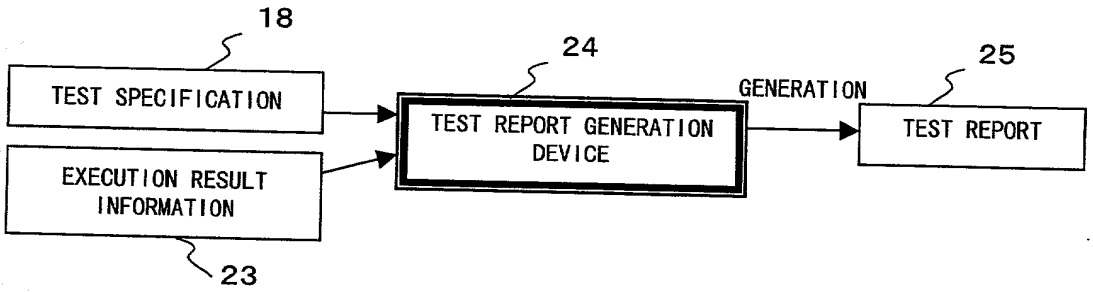

18
TEST SPECIFICATION
EXECUTION RESULT INFORMATION
23
24
TEST REPORT GENERATION DEVICE
GENERATION
25
TEST REPORT

FIG. 6

READING (INPUT)
GENERATION (OUTPUT)
EXECUTION RESULT INFORMATION
23
TEST SUPPORT CLASS
VISUAL REPRESENTATION DEVICE
AUTOMATIC TEST EXECUTION DEVICE
21
34
32
31
35
PERFORMANCE SUPPORT DEVICE
TEST DATA SETTING DEVICE
TEST DATA INPUT DEVICE
MEASUREMENT
INHERITANCE
TEST TARGET SCREEN CLASS
28
27
SCREEN CLASS GENERATION DEVICE
20
TEST SUPPORT CLASS GENERATION DEVICE
18
SPECIFICATION TEST
25
TEST REPORT GENERATION DEVICE
TEST REPORT
24
16
TEST SPECIFICATION GENERATION DEVICE
15
DEFINITION SCREEN INFORMATION

FIG. 7

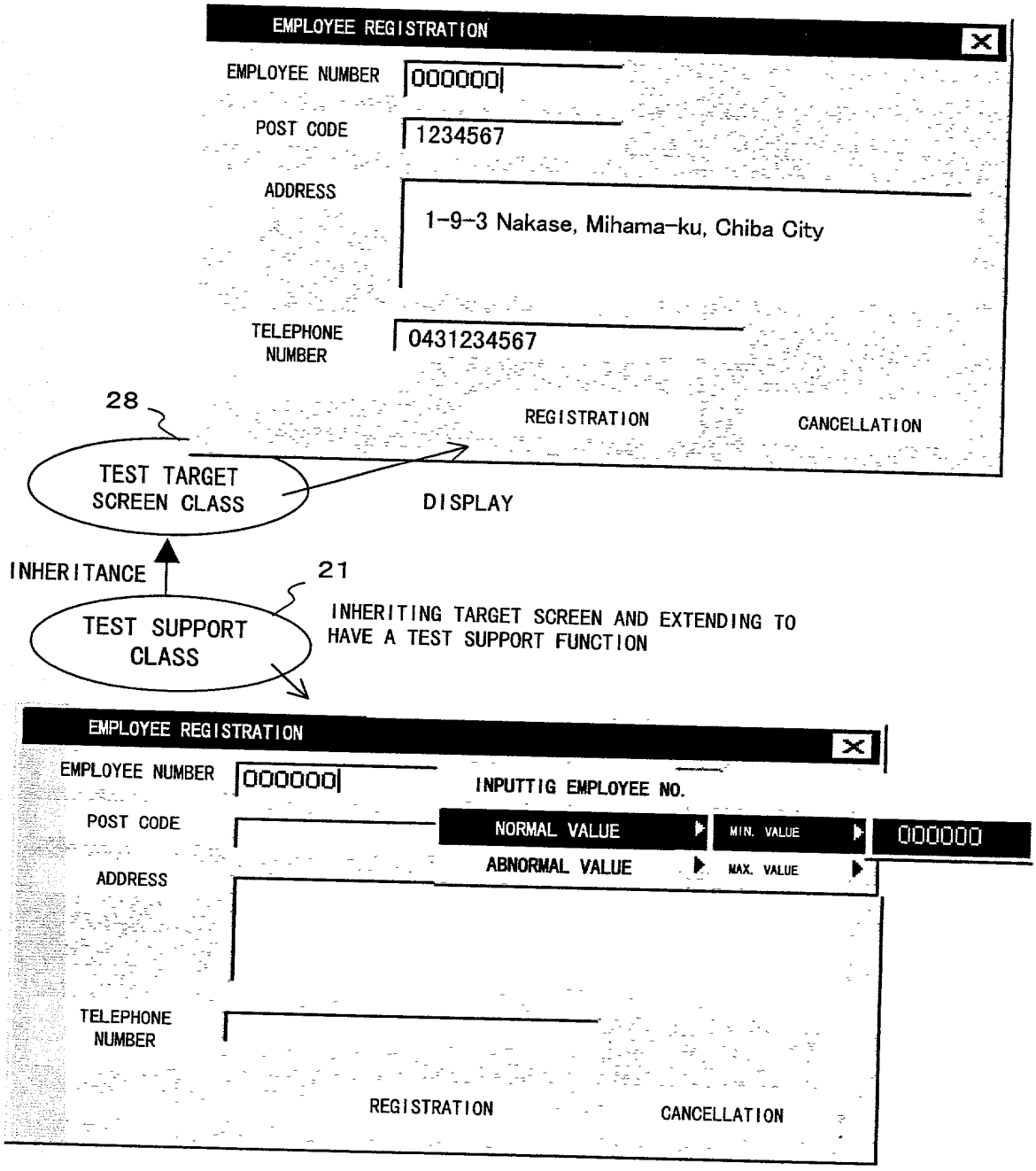

EMPLOYEE REGISTRATION
EMPLOYEE NUMBER
000000
POST CODE
1234567
ADDRESS
1-9-3 Nakase, Mihama-ku, Chiba City
TELEPHONE NUMBER
0431234567
REGISTRATION
CANCELLATION
28
TEST TARGET SCREEN CLASS
DISPLAY
INHERITANCE
21
TEST SUPPORT CLASS
INHERITING TARGET SCREEN AND EXTENDING TO HAVE A TEST SUPPORT FUNCTION
EMPLOYEE REGISTRATION
EMPLOYEE NUMBER
000000
INPUTTIG EMPLOYEE NO.
POST CODE
NORMAL VALUE
MIN. VALUE
000000
ABNORMAL VALUE
MAX. VALUE
ADDRESS
TELEPHONE NUMBER
REGISTRATION
CANCELLATION

FIG. 8

EMPLOYEE REGISTRATION SCREEN DEFINITION

NAME OF SCREEN : EMPLOYEE REGISTRATION JyugyoinToroku

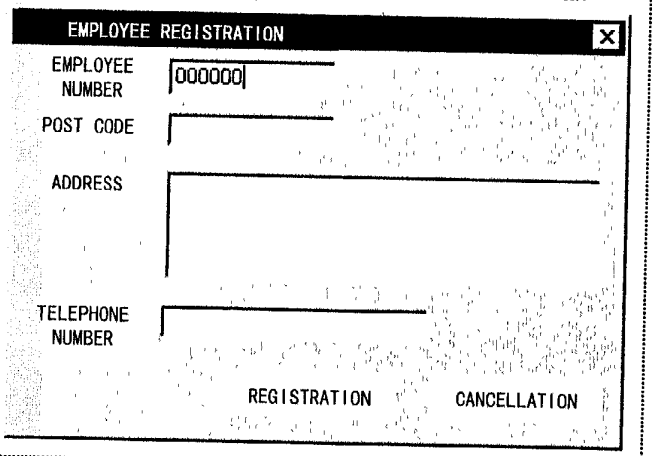
NAME OF SAMPLE SCREEN : DB REGISTRATION TYPE / DBTorokuMaster

SCREEN SIZE : 600 × 400

NAME OF ITEM	NAME OF VARIABLE	TYPE	NUMBER OF DIGITS	MINUMUM VALUE	MAXIMUM VALUE
EMPLOYEE NUMBER	jyugyoinBangou	NUMERAL	6	000000	999999
POST CODE	yubinBangou	NUMERAL	7	0010001	9999999
ADDRESS	jyusyo	JAPANESE/ ALPHANU-MERIC	80		
TELEPHONE NUMBER	denwaBangou	NUMERAL	10		
REGISTRATION	torokuButton	BUTTON			
CANCELLATION	cancelButton	BUTTON			

TEST SPECIFICATION GENERATION DEVICE 16

GENERATING SCREEN



EMPLOYEE REGISTRATION SCREEN TEST SPECIFICATION (IN AN ITEM UNIT)

NAME OF TEST CASE	TEST ITEM	CONTENTS OF TEST	TEST DATA	EXECUTION RESULT	EXECUTION DATE
TEST-1001-01	EMPLOYEE NUMBER	MINIMUM VALUE	000000		
TEST-1001-02		MAXIMUM VALUE	999999		
TEST-1001-03		MINIMUM VALUE-1	-1		
TEST-1001-04		MAXIMUM VALUE+1	1000000		
TEST-1001-05		INPUTTING ALPHABET	ABCDE		
TEST-1001-06		JAPANESE	あ, い, う		
TEST-1002-01	POST CODE		0010001		
TEST-1002-02			9999999		
・・・	・・・	・・・	・・・		

EMPLOYEE REGISTRATION SCREEN TEST SPECIFICATION (IN A SCREEN UNIT)

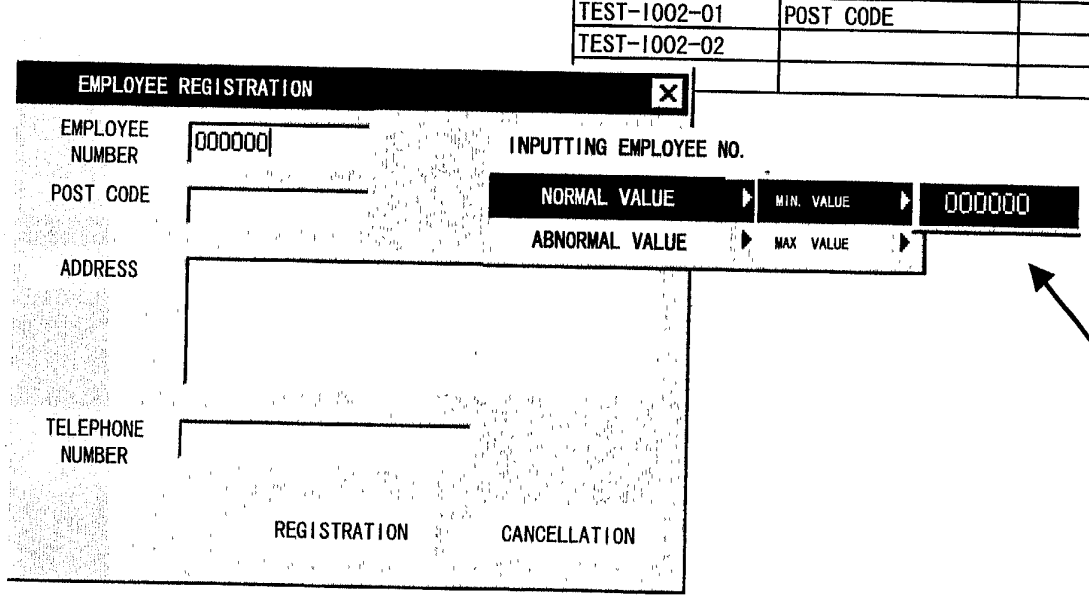
NAME OF TEST CASE	TEST ITEM	CONTENTS OF TEST	TEST DATA	EXECUTION RESULT	EXECUTION DATE
TEST-G001	EMPLOYEE NUMBER	MINIMUM VALUE	000000		
TEST-G001	POST CODE	NORMAL	1234567		
TEST-G001	ADDRESS	NORMAL	Mihama-ku, Chiba-City		
TEST-G001	TELEPHONE NUMBER	NORMAL	0431234567		
TEST-G002	EMPLOYEE NUMBER	MAXIMUM VALUE	999999		
TEST-G002	POST CODE	NORMAL	1234567		
TEST-G002	ADDRESS	NORMAL	Mihama-ku, Chiba-City		
TEST-G002	TELEPHONE NUMBER	NORMAL	0431234567		
・・・	・・・	・・・	・・・		

FIG. 9

JP2004-094860

EMPLOYEE REGISTRATION SCREEN TEST SPECIFICATION (EMPLOYEE NUMBER)

NAME OF TEST CASE	TEST ITEM	CONTENTS OF TEST	TEST DATA	EXECUTION RESULT	EXECUTION DATE
TEST-1001-01	EMPLOYEE NUMBER	MINIMUM VALUE	000000		
TEST-1001-02		MAXIMUM VALUE	999999		
TEST-1001-03		MINIMUM VALUE-1	-1		
TEST-1001-04		MAXIMUM VALUE+1	1000000		
TEST-1001-05		INPUTTING ALPHABET	ABCDE		
TEST-1001-06		JAPANESE	あ,い,う		
TEST-1002-01	POST CODE				
TEST-1002-02					



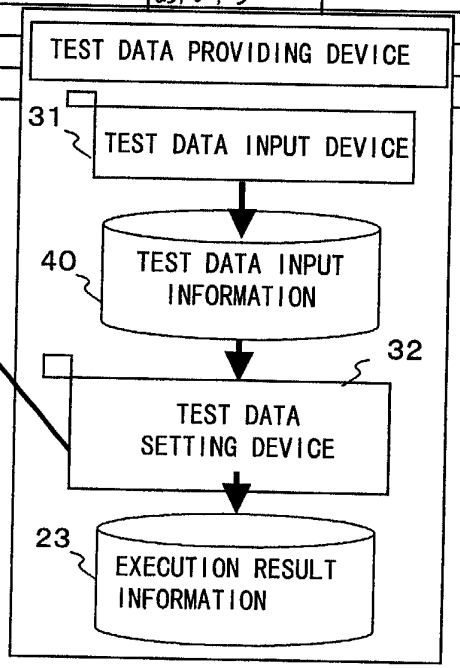


FIG. 10

TOETEO" 8924h0860

EMPLOYEE REGISTRATION SCREEN TEST SPECIFICATION (EMPLOYEE NUMBER)

NAME OF TEST CASE	TEST ITEM	CONTENTS OF TEST	TEST DATA	EXECUTION RESULT	EXECUTION DATE
TEST-G001	EMPLOYEE NUMBER	MINIMUM VALUE	000000		
TEST-G001	POST CODE	NORMAL	1234567		
TEST-G001	ADDRESS	NORMAL	Mihama-ku, Chiba-City		
TEST-G001	TELEPHONE NUMBER	NORMAL	0431234567		
TEST-G002	EMPLOYEE NUMBER	MAXIMUM VALUE	999999		
TEST-G002	POST CODE	NORMAL	Mihama-ku, Chiba-City		
TEST-G002	ADDRESS	NORMAL	0431234567		
TEST-G002	TELEPHONE NUMBER	NORMAL			
・・・	・・・	・・・	・・・		

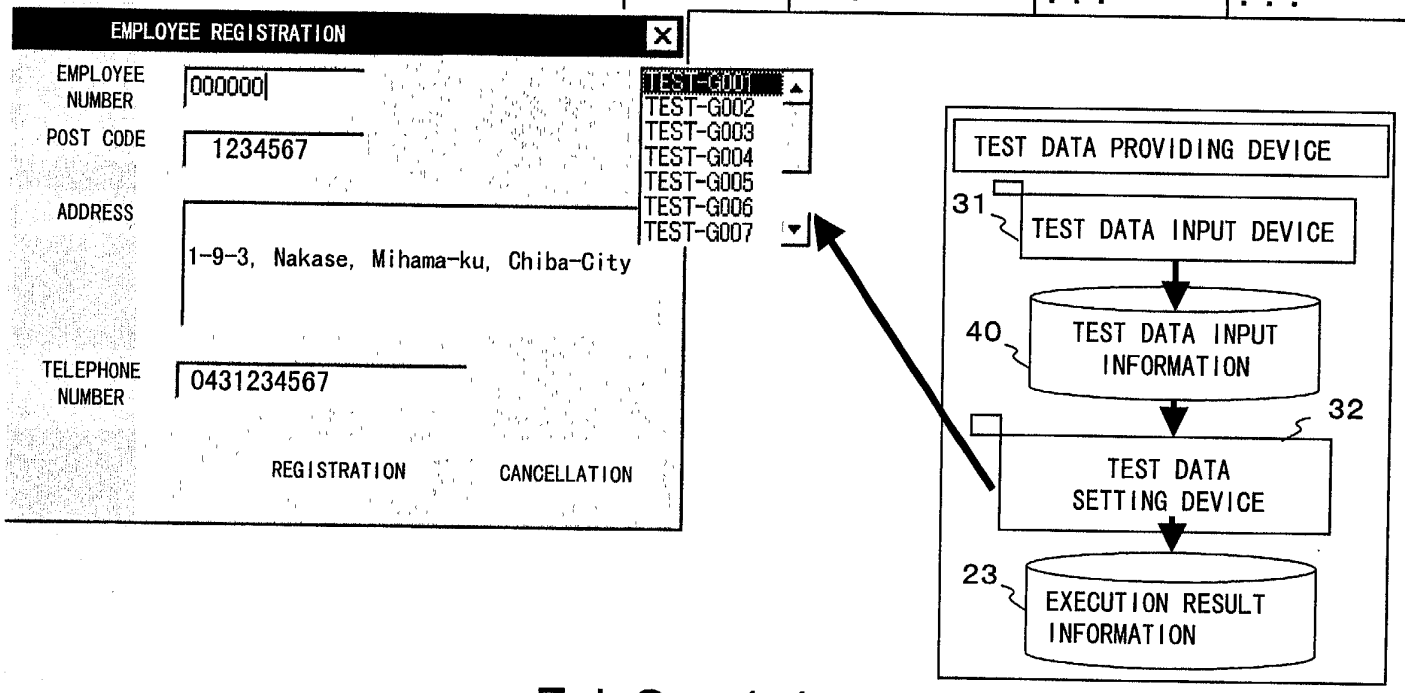


FIG. 11

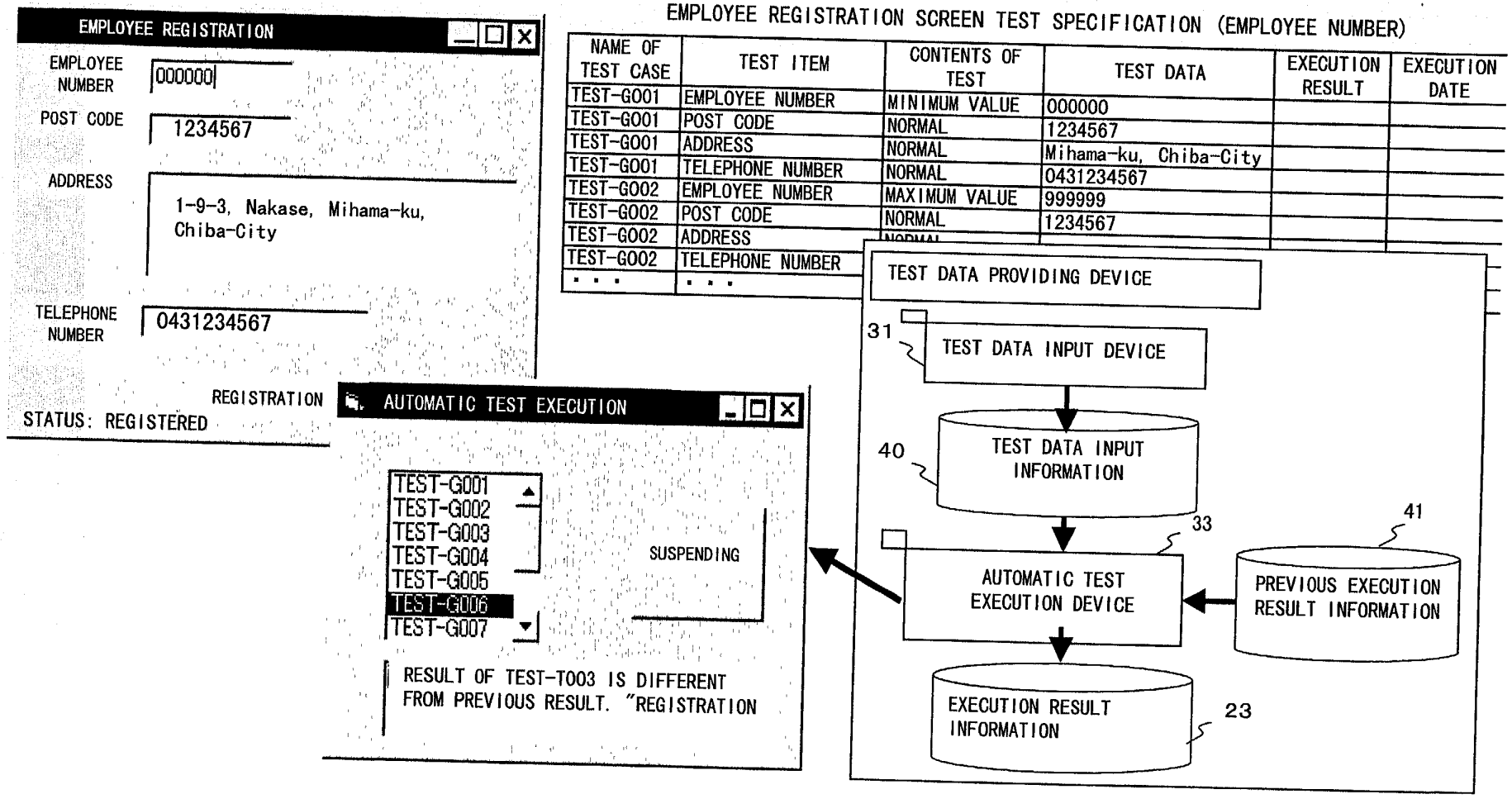

EMPLOYEE REGISTRATION
EMPLOYEE NUMBER
000000
POST CODE
1234567
ADDRESS
1-9-3, Nakase, Mihama-ku, Chiba-City
TELEPHONE NUMBER
0431234567
REGISTRATION
STATUS: REGISTERED
AUTOMATIC TEST EXECUTION
TEST-G001
TEST-G002
TEST-G003
TEST-G004
TEST-G005
TEST-G006
TEST-G007
SUSPENDING
RESULT OF TEST-T003 IS DIFFERENT FROM PREVIOUS RESULT. "REGISTRATION
EMPLOYEE REGISTRATION SCREEN TEST SPECIFICATION (EMPLOYEE NUMBER)
NAME OF TEST CASE
TEST ITEM
CONTENTS OF TEST
TEST DATA
EXECUTION RESULT
EXECUTION DATE
TEST-G001 EMPLOYEE NUMBER MINIMUM VALUE 000000
TEST-G001 POST CODE NORMAL 1234567
TEST-G001 ADDRESS NORMAL Mihama-ku, Chiba-City
TEST-G001 TELEPHONE NUMBER NORMAL 0431234567
TEST-G002 EMPLOYEE NUMBER MAXIMUM VALUE 999999
TEST-G002 POST CODE NORMAL 1234567
TEST-G002 ADDRESS
TEST-G002 TELEPHONE NUMBER
TEST DATA PROVIDING DEVICE
31
TEST DATA INPUT DEVICE
40
TEST DATA INPUT INFORMATION
33
AUTOMATIC TEST EXECUTION DEVICE
41
PREVIOUS EXECUTION RESULT INFORMATION
EXECUTION RESULT INFORMATION
23

FIG. 12

TOETEO"89EH0860

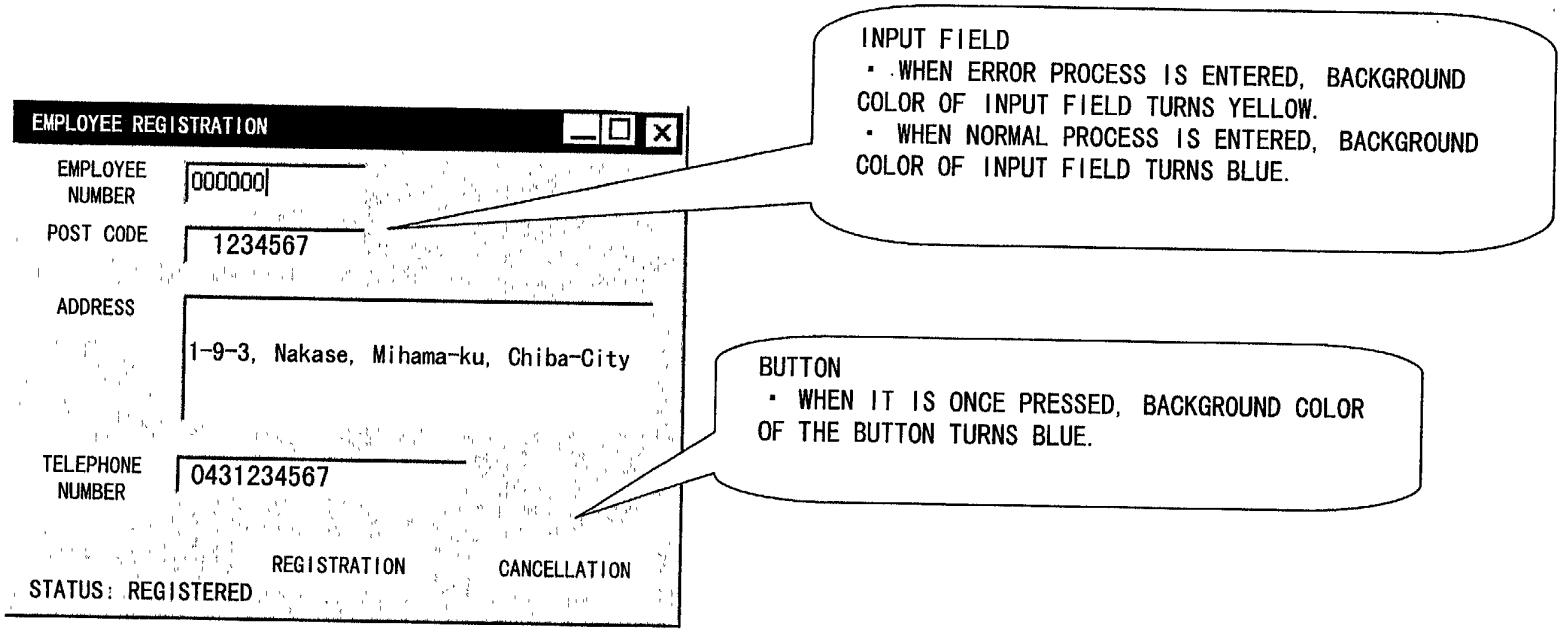


FIG. 13

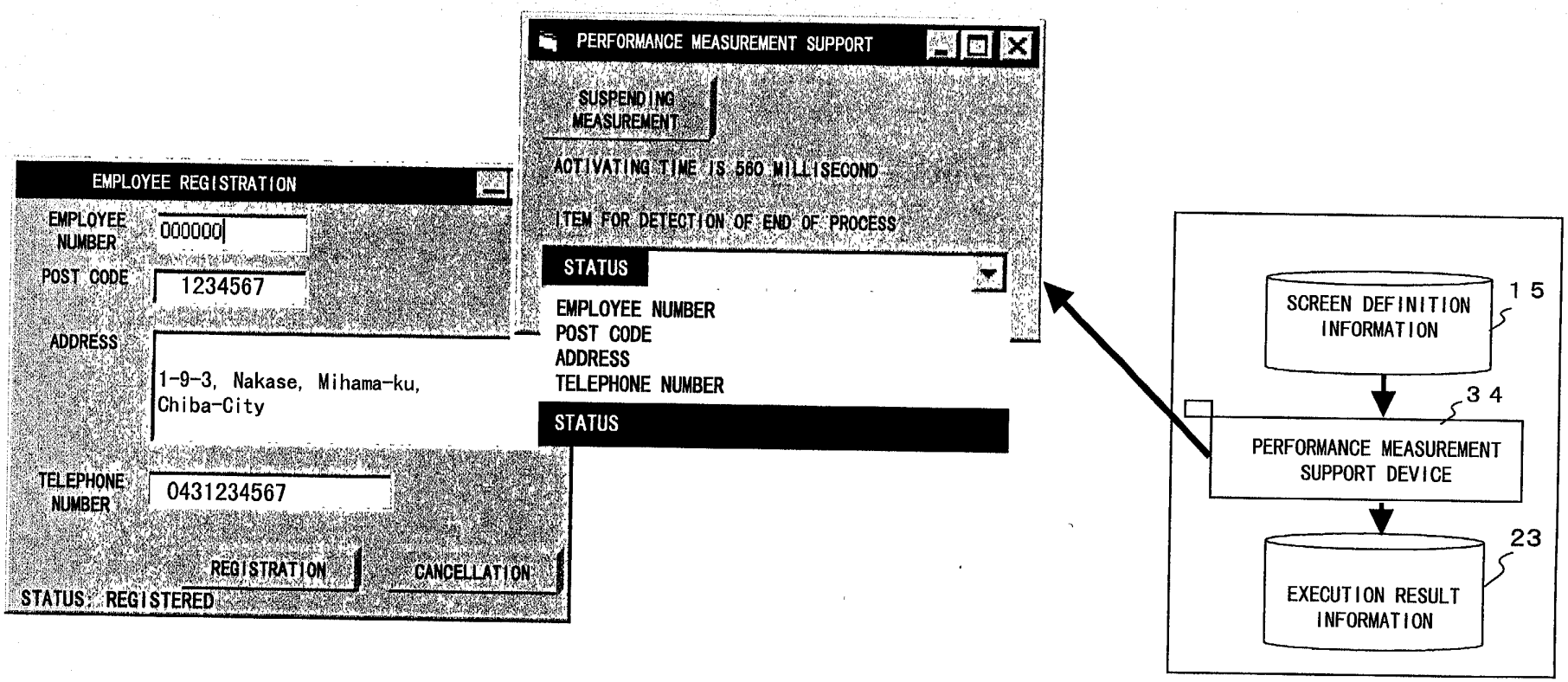

PERFORMANCE MEASUREMENT SUPPORT
SUSPENDING MEASUREMENT
ACTIVATING TIME IS 560 MILLISECOND
ITEM FOR DETECTION OF END OF PROCESS
STATUS
EMPLOYEE NUMBER
POST CODE
ADDRESS
TELEPHONE NUMBER
STATUS
EMPLOYEE REGISTRATION
EMPLOYEE NUMBER
000000
POST CODE
1234567
ADDRESS
1-9-3, Nakase, Mihama-ku,
Chiba-City
TELEPHONE NUMBER
0431234567
REGISTRATION
CANCELLATION
STATUS: REGISTERED
SCREEN DEFINITION INFORMATION
15
34
PERFORMANCE MEASUREMENT SUPPORT DEVICE
23
EXECUTION RESULT INFORMATION

FIG. 14

EMPLOYEE REGISTRATION SCREEN TEST SPECIFICATION (EMPLOYEE NUMBER)

NAME OF TEST CASE	TEST ITEM	CONTENTS OF TEST	TEST DATA	EXECUTION RESULT	EXECUTION DATE
TEST-1001-01	EMPLOYEE NUMBER	MINIMUM VALUE	000000	○	00/03/03
TEST-1001-02		MAXIMUM VALUE	999999	○	00/03/03
TEST-1001-03		MINIMUM VALUE-1	-1	×	00/03/03
TEST-1001-04		MAXIMUM VALUE+1	1000000	×	
TEST-1001-05		INPUTTING ALPHABET	ABCDE	×	
TEST-1001-06		JAPANESE	あ,い,う	×	
TEST-				○	00/03/04
TEST-				○	00/03/04

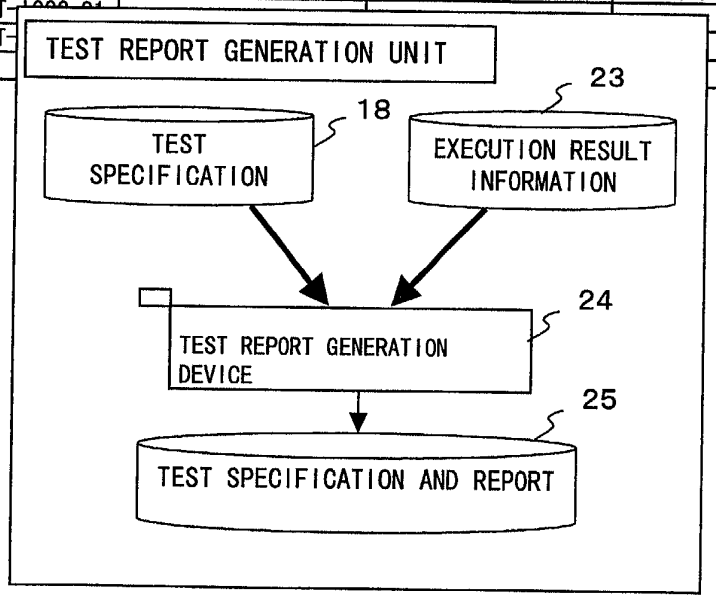


FIG. 15

JP2004-086860

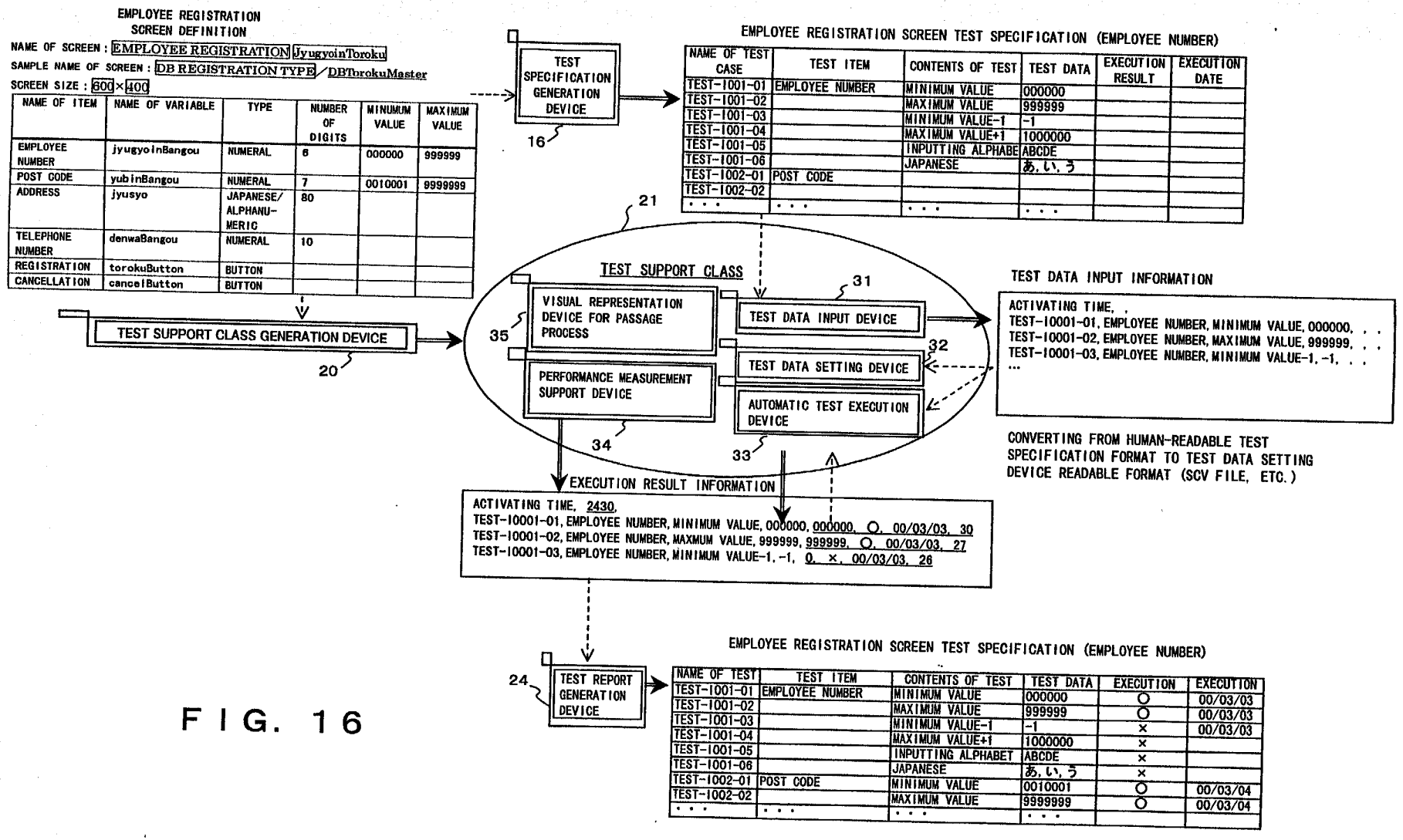


FIG. 16

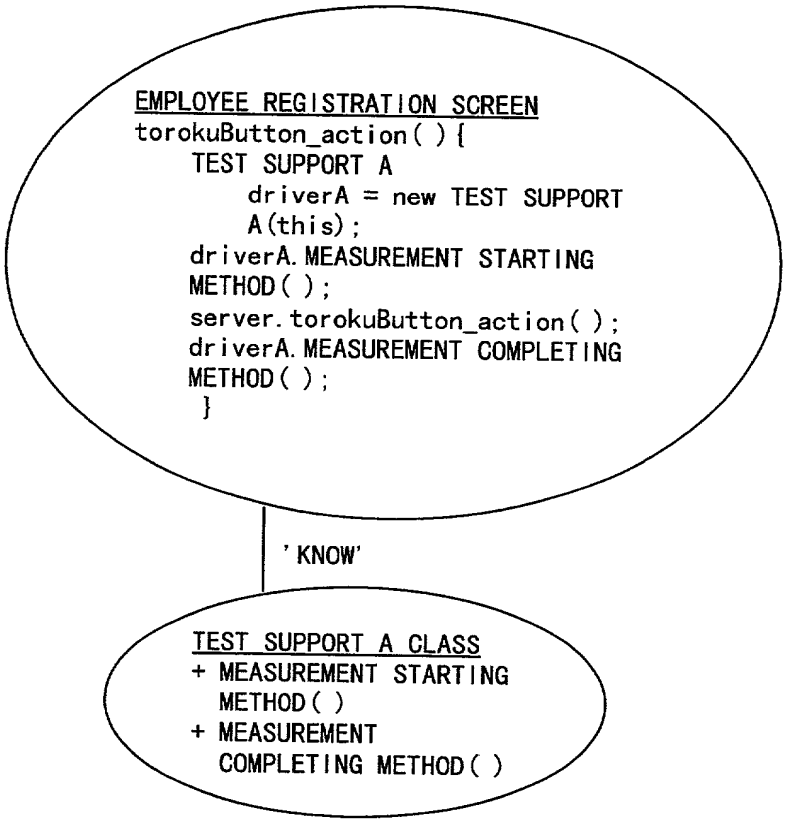

EMPLOYEE REGISTRATION SCREEN
torokuButton_action( ){
TEST SUPPORT A
driverA = new TEST SUPPORT
A(this);
driverA.MEASUREMENT STARTING
METHOD( );
server.torokuButton_action( );
driverA.MEASUREMENT COMPLETING
METHOD( );
}
'KNOW'
TEST SUPPORT A CLASS
+ MEASUREMENT STARTING
METHOD( )
+ MEASUREMENT
COMPLETING METHOD( )

FIG. 17

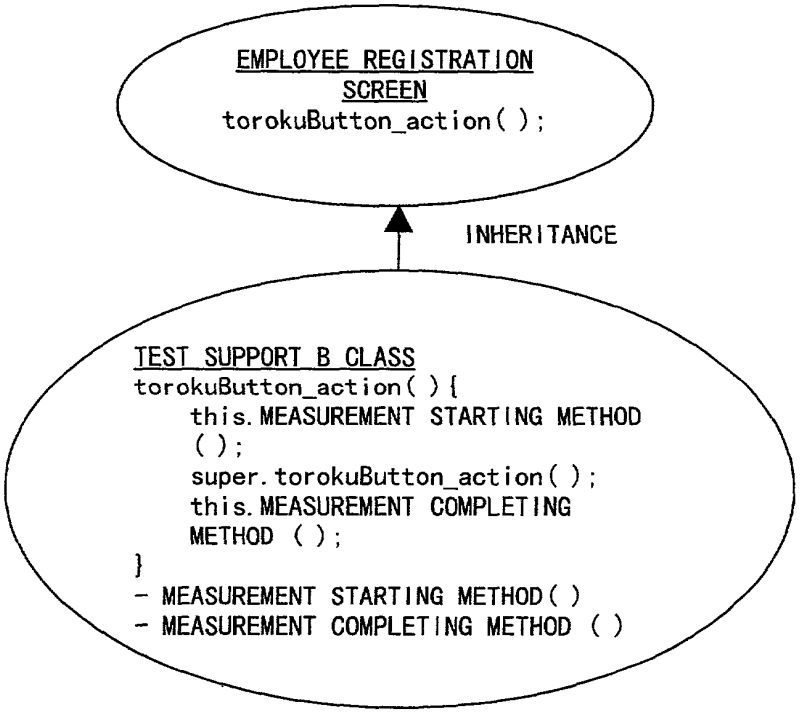

EMPLOYEE REGISTRATION SCREEN
torokuButton_action( );
INHERITANCE
TEST SUPPORT B CLASS
torokuButton_action( ){
this.MEASUREMENT STARTING METHOD ( );
super.torokuButton_action( );
this.MEASUREMENT COMPLETING METHOD ( );
}
- MEASUREMENT STARTING METHOD( )
- MEASUREMENT COMPLETING METHOD ( )

FIG. 18

Document ID: US 2007/0234294 A1

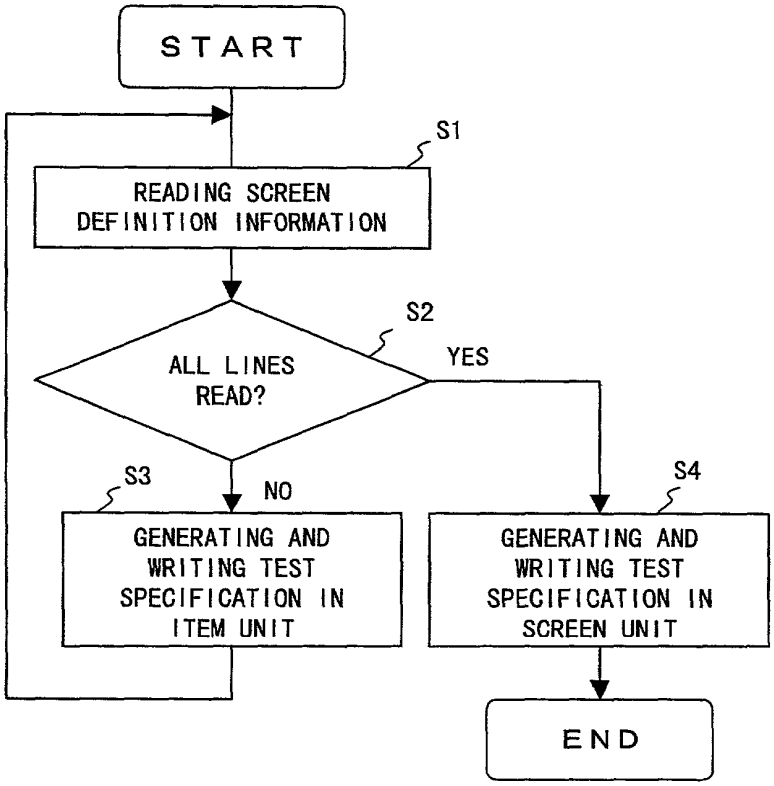


FIG. 19

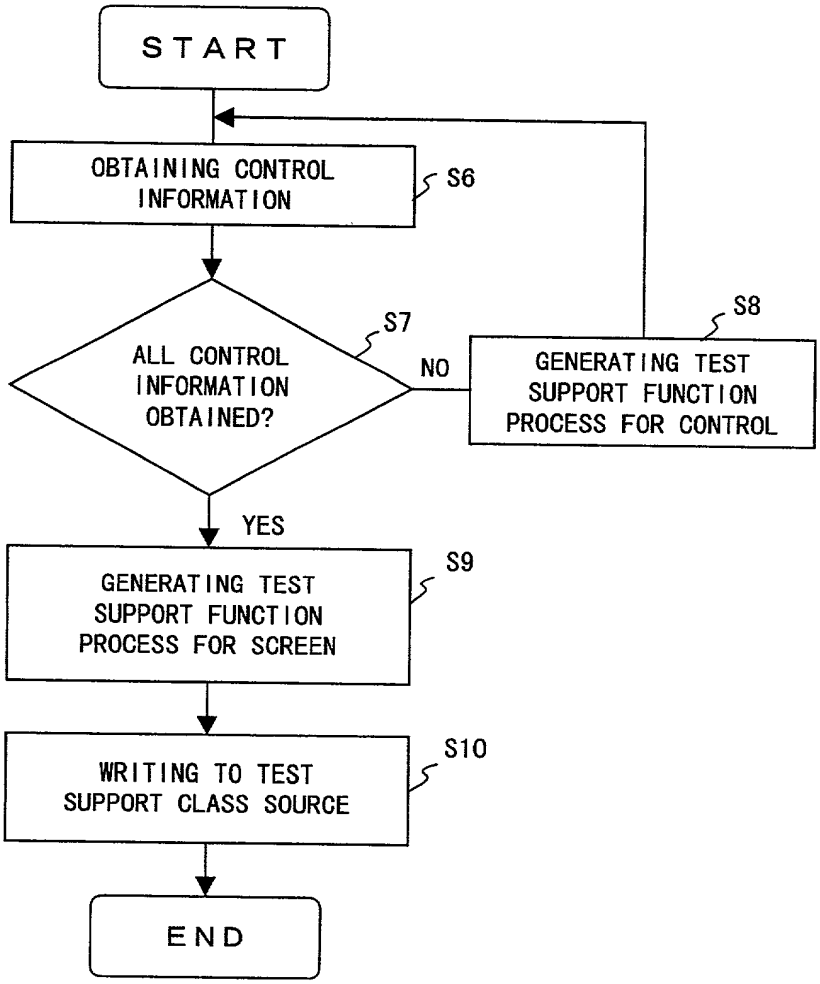

START
OBTAINING CONTROL INFORMATION
S6
ALL CONTROL INFORMATION OBTAINED?
S7
NO
GENERATING TEST SUPPORT FUNCTION PROCESS FOR CONTROL
S8
YES
GENERATING TEST SUPPORT FUNCTION PROCESS FOR SCREEN
S9
WRITING TO TEST SUPPORT CLASS SOURCE
S10
END

FIG. 20

EMPLOYEE REGISTRATION SCREEN TEST SPECIFICATION (EMPLOYEE NUMBER) 18

NAME OF TEST CASE	TEST ITEM	CONTENTS OF TEST	TEST DETA	TEST RESULT
TEST 001	NORMAL VALUE	MINIMUM VALUE	000000	
		MAXIMUM VALUE	999999	
	ABNORMAL VALUE	MINIMUM VALUE-1	-1	
		MAXIMUM VALUE+1	1000000	
		INPUTTING ALPHABET	ABCDE	
		JAPANESE	あ, い, う	

31

TEST DATA INPUT DEVICE

40

TEST DATA INPUT INFORMATION

SCREEN	INPUT	FIRST LEVEL DISPLAY	SECOND LEVEL DISPLAY	TEST VALUE
EMP.	EMPLOYEE NUM.	NORMAL VALUE	MINIMUM VALUE	000000
EMP.	EMPLOYEE NUM.	NORMAL VALUE	MAXIMUM VALUE	999999
EMP.	EMPLOYEE NUM.	ABNORMAL VALUE	MINIMUM VALUE-1	-1
EMP.	EMPLOYEE NUM.	ABNORMAL VALUE	MAXIMUM VALUE+1	1000000
EMP.	EMPLOYEE NUM.	ABNORMAL VALUE	ALPHABET	ABCDE
EMP.	EMPLOYEE NUM.	ABNORMAL VALUE	JAPANESE	あ, い, う

FIG. 21

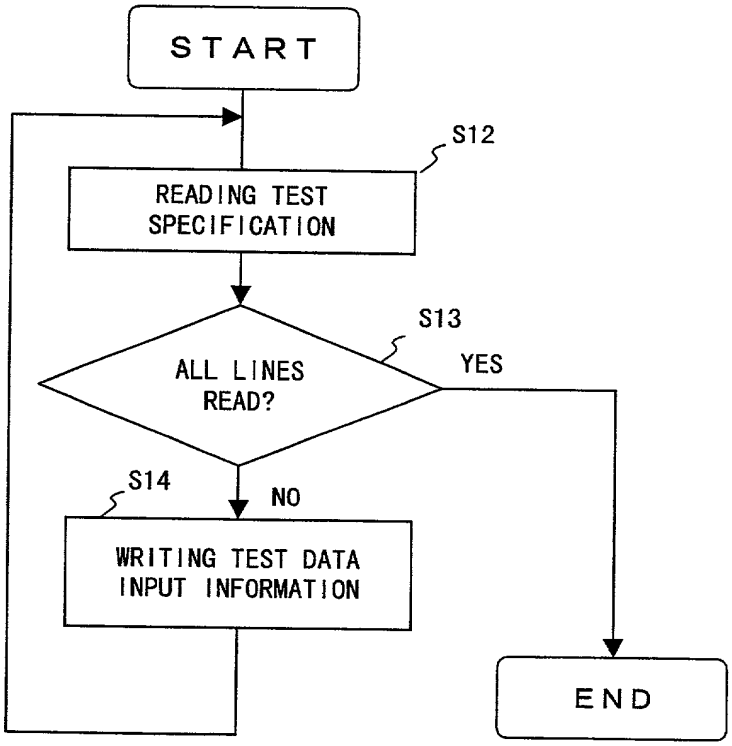
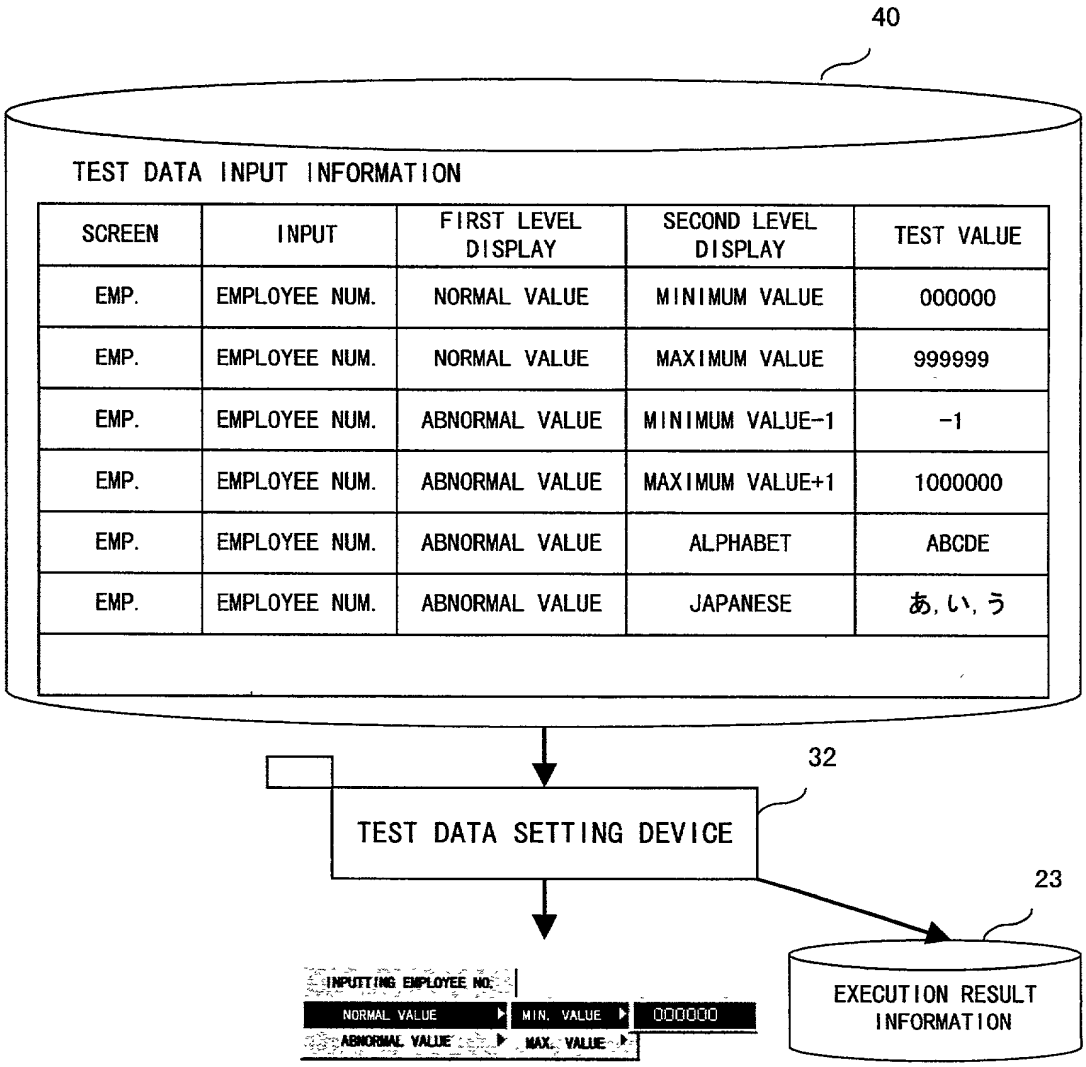

START
S12
READING TEST SPECIFICATION
S13
ALL LINES READ?
YES
S14
NO
WRITING TEST DATA INPUT INFORMATION
END

FIG. 22



EXAMPLE OF EXECUTION RESULT INFORMATION
DISPLAY VALUE FOR INPUT DATA, EXECUTION DETERMINATION RESULT (○/×), EXECUTION DATE AND TIME, ETC. ARE ADDED

ACTIVATING TIME
TEST-10001-01, EMPLOYEE NUMBER, MINIMUM VALUE, 000000, 000000, ○, 00/03/03,
TEST-10001-02, EMPLOYEE NUMBER, MAXIMUM VALUE, 999999, 999999, ○, 00/03/03,
TEST-10001-03, EMPLOYEE NUMBER, MINIMUM VALUE-1, -1, -0, ×, 00/03/03,
...

FIG. 23

EP 3 940 540 A1 20220119

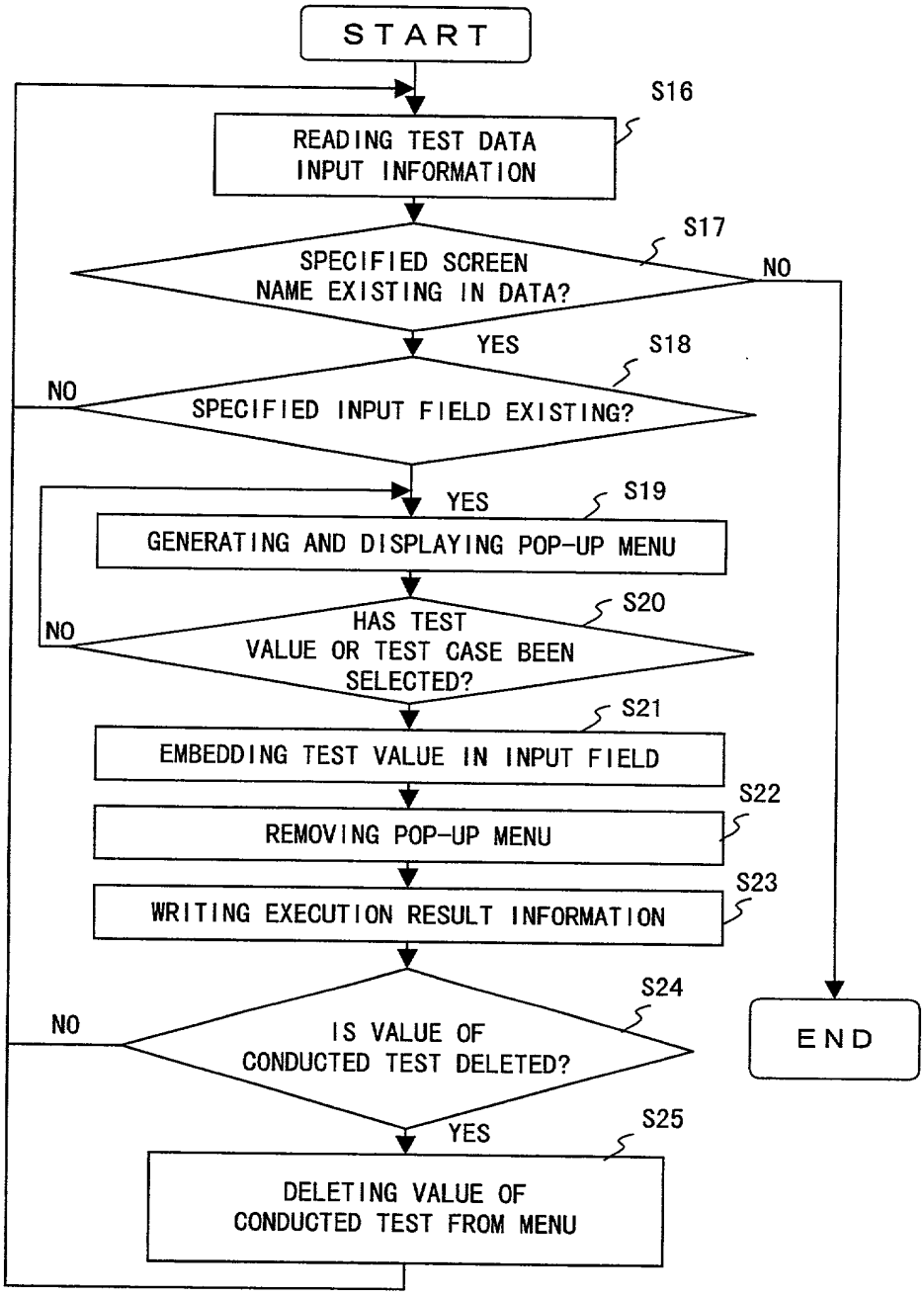
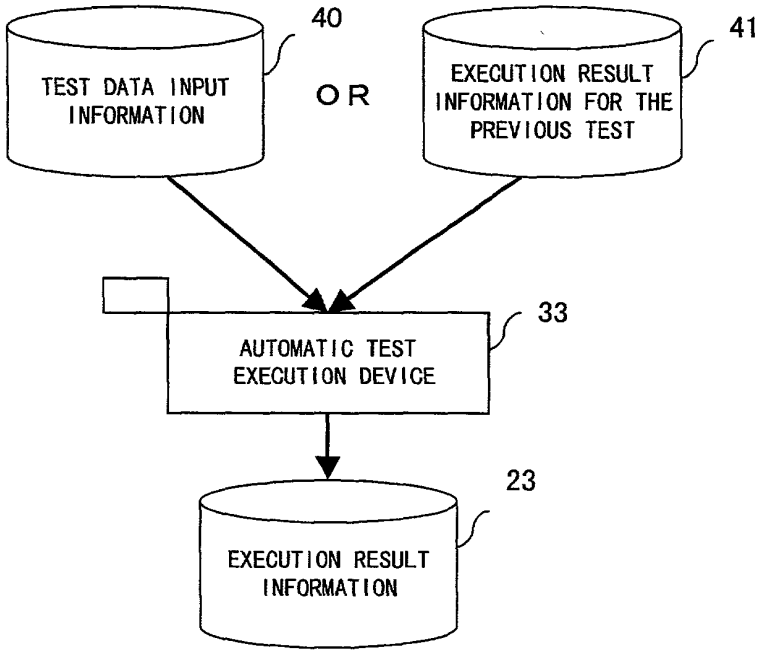


FIG. 24



EXAMPLE OF EXECUTION RESULT INFORMATION
SINCE TEST IS AUTOMATICALLY CONDUCTED, NO EXECUTION RESULT DETERMATION (○/×) IS OUTPUT BY OPERATOR

```
ACTIVATING TIME
TEST-10001-01, EMPLOYEE NUMBER, MINIMUM VALUE, 000000, 000000, 00/03/03,
TEST-10001-02, EMPLOYEE NUMBER, MAXIMUM VALUE, 999999, 999999, 00/03/03,
TEST-10001-03, EMPLOYEE NUMBER, MINIMUM VALUE-1, -1, -0, 00/03/03,
...
```

FIG. 25

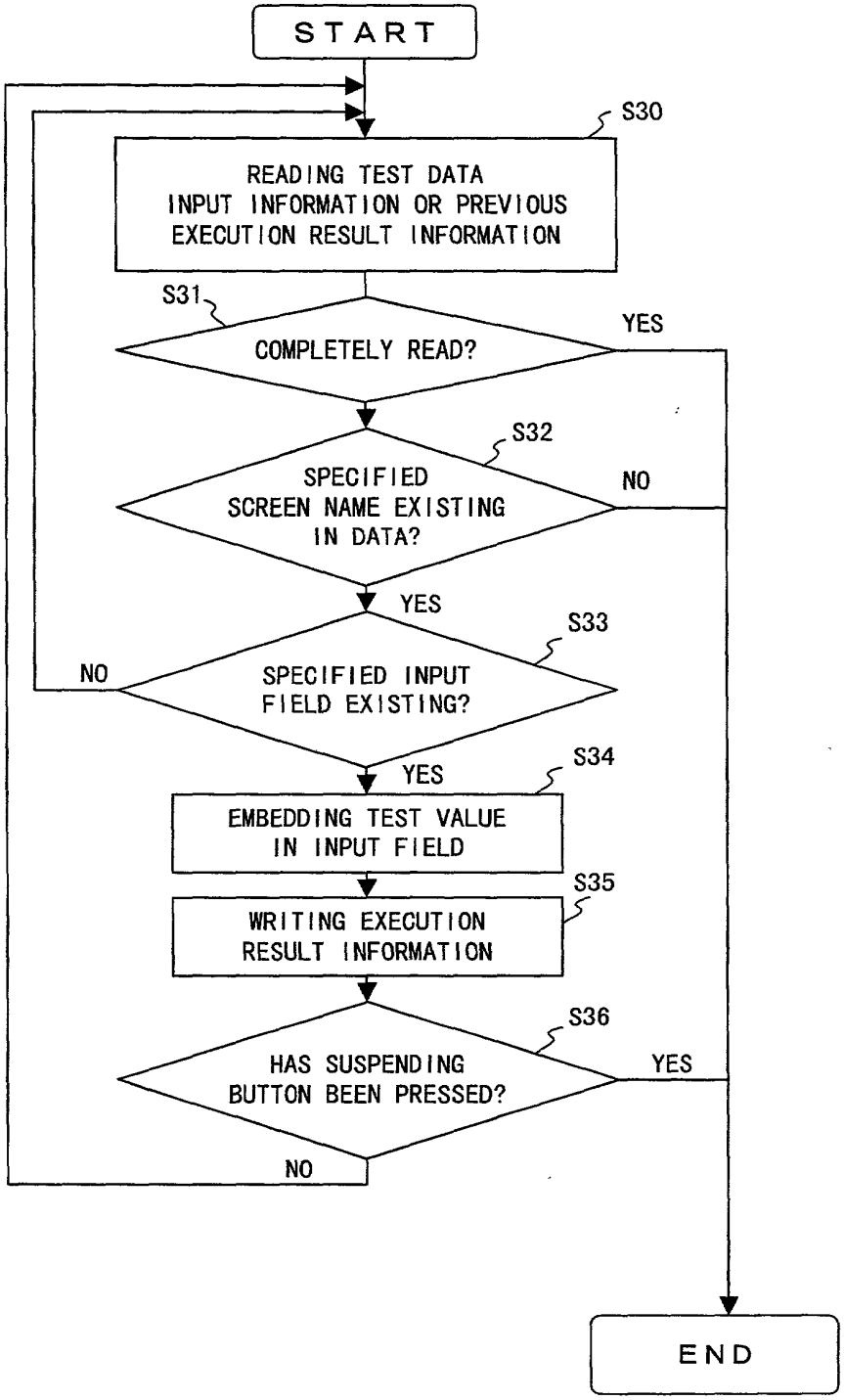

START
S30
READING TEST DATA
INPUT INFORMATION OR PREVIOUS
EXECUTION RESULT INFORMATION
S31
COMPLETELY READ?
YES
S32
SPECIFIED
SCREEN NAME EXISTING
IN DATA?
NO
YES
S33
SPECIFIED INPUT
FIELD EXISTING?
NO
YES
S34
EMBEDDING TEST VALUE
IN INPUT FIELD
S35
WRITING EXECUTION
RESULT INFORMATION
S36
HAS SUSPENDING
BUTTON BEEN PRESSED?
YES
NO
END

FIG. 26

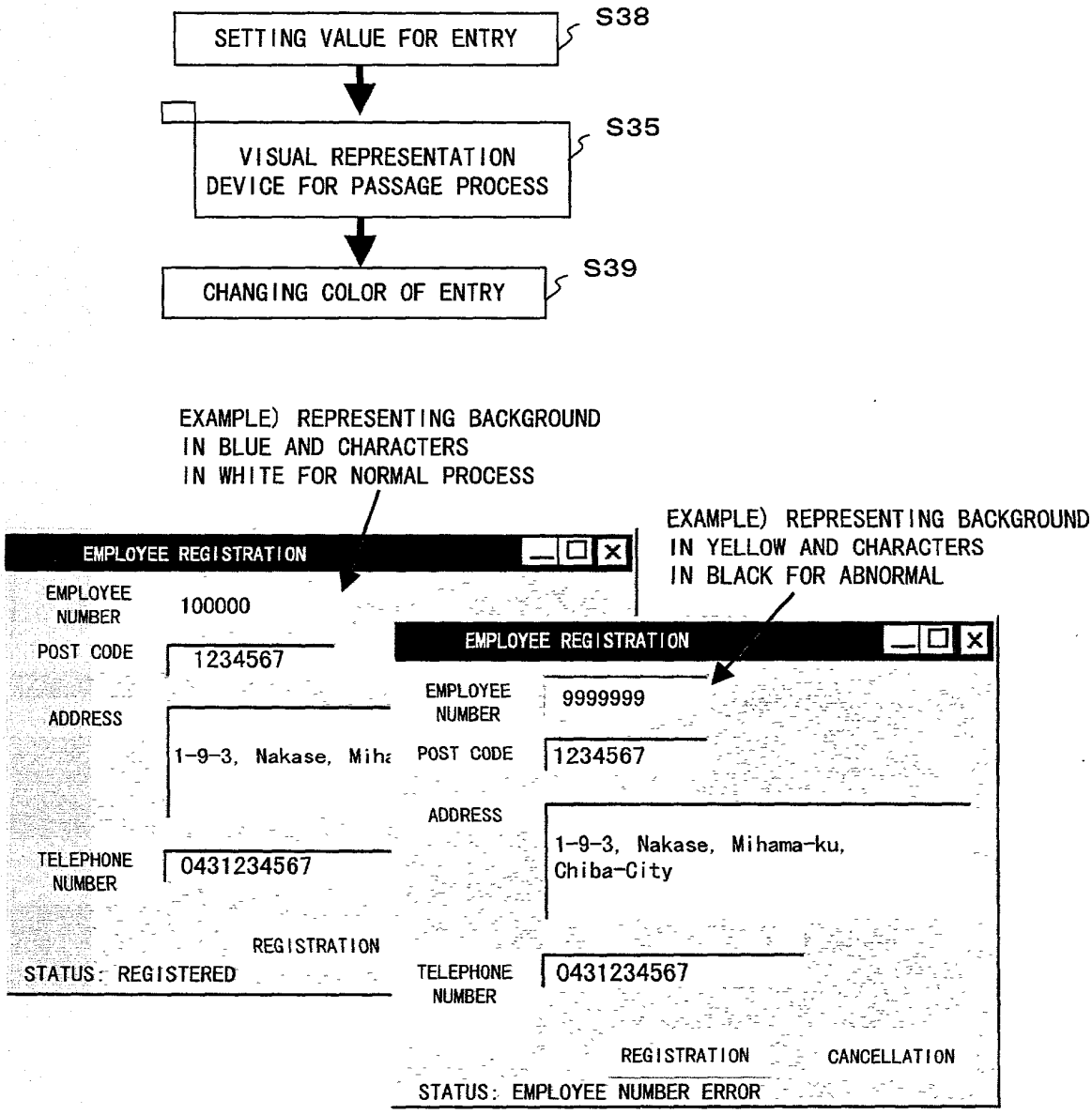

SETTING VALUE FOR ENTRY
S38
VISUAL REPRESENTATION DEVICE FOR PASSAGE PROCESS
S35
CHANGING COLOR OF ENTRY
S39
EXAMPLE) REPRESENTING BACKGROUND IN BLUE AND CHARACTERS IN WHITE FOR NORMAL PROCESS
EXAMPLE) REPRESENTING BACKGROUND IN YELLOW AND CHARACTERS IN BLACK FOR ABNORMAL
EMPLOYEE REGISTRATION
EMPLOYEE NUMBER
100000
POST CODE
1234567
ADDRESS
1-9-3, Nakase, Miha
TELEPHONE NUMBER
0431234567
REGISTRATION
STATUS: REGISTERED
EMPLOYEE REGISTRATION
EMPLOYEE NUMBER
9999999
POST CODE
1234567
ADDRESS
1-9-3, Nakase, Mihama-ku, Chiba-City
TELEPHONE NUMBER
0431234567
REGISTRATION
CANCELLATION
STATUS: EMPLOYEE NUMBER ERROR

FIG. 27

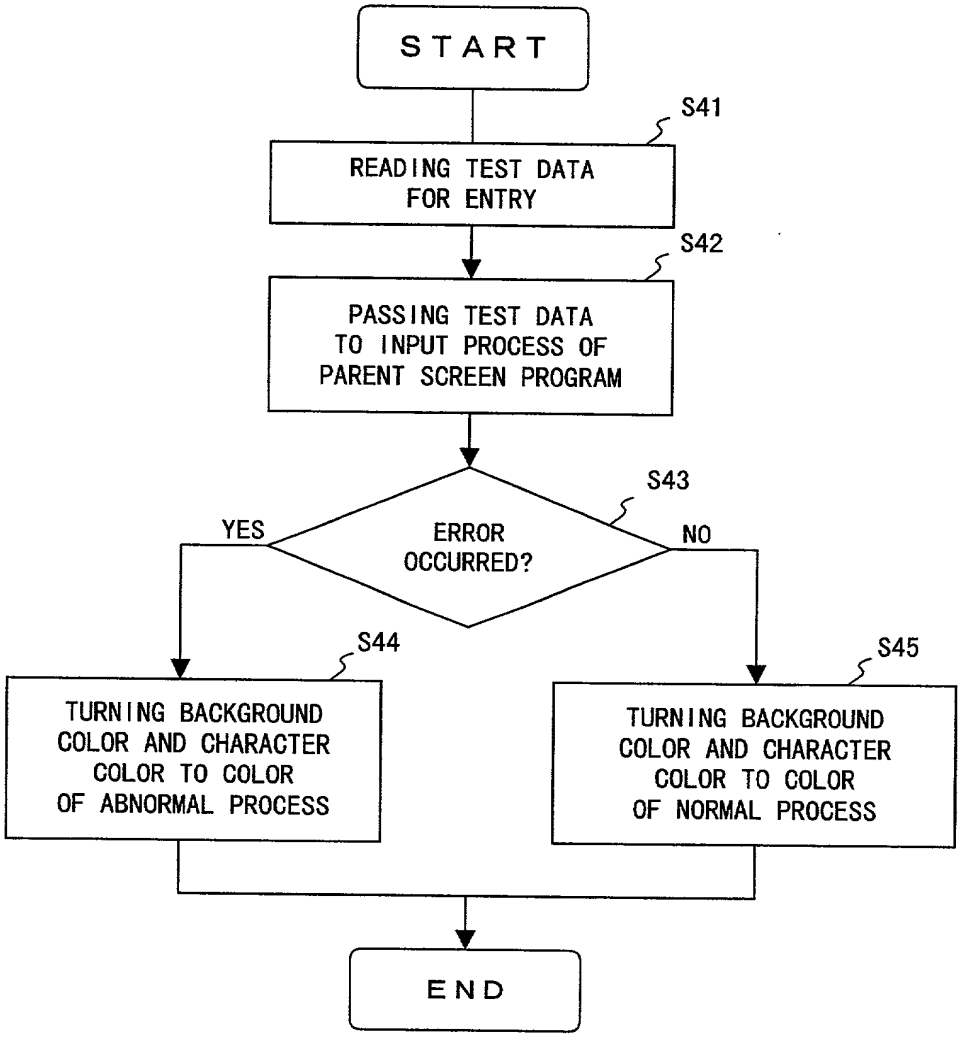

START
S41
READING TEST DATA FOR ENTRY
S42
PASSING TEST DATA TO INPUT PROCESS OF PARENT SCREEN PROGRAM
S43
ERROR OCCURRED?
YES
NO
S44
TURNING BACKGROUND COLOR AND CHARACTER COLOR TO COLOR OF ABNORMAL PROCESS
S45
TURNING BACKGROUND COLOR AND CHARACTER COLOR TO COLOR OF NORMAL PROCESS
END

FIG. 28

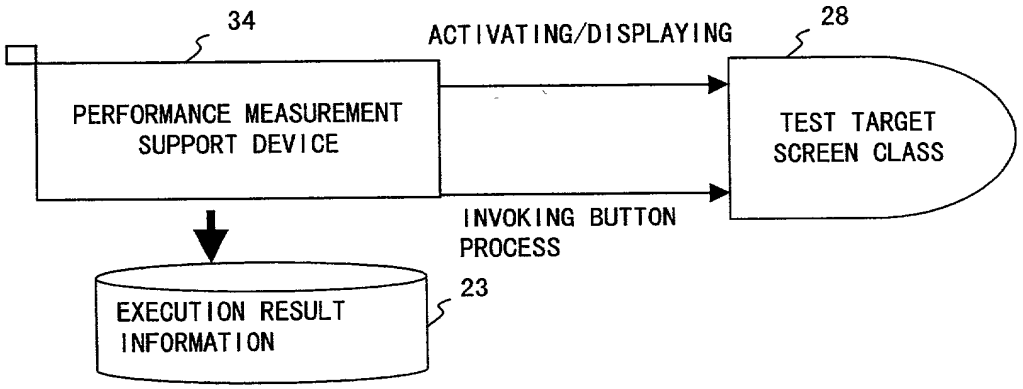

34
ACTIVATING/DISPLAYING
28
PERFORMANCE MEASUREMENT SUPPORT DEVICE
TEST TARGET SCREEN CLASS
INVOKING BUTTON PROCESS
EXECUTION RESULT INFORMATION
23

FIG. 29

TOCTEC-0020060

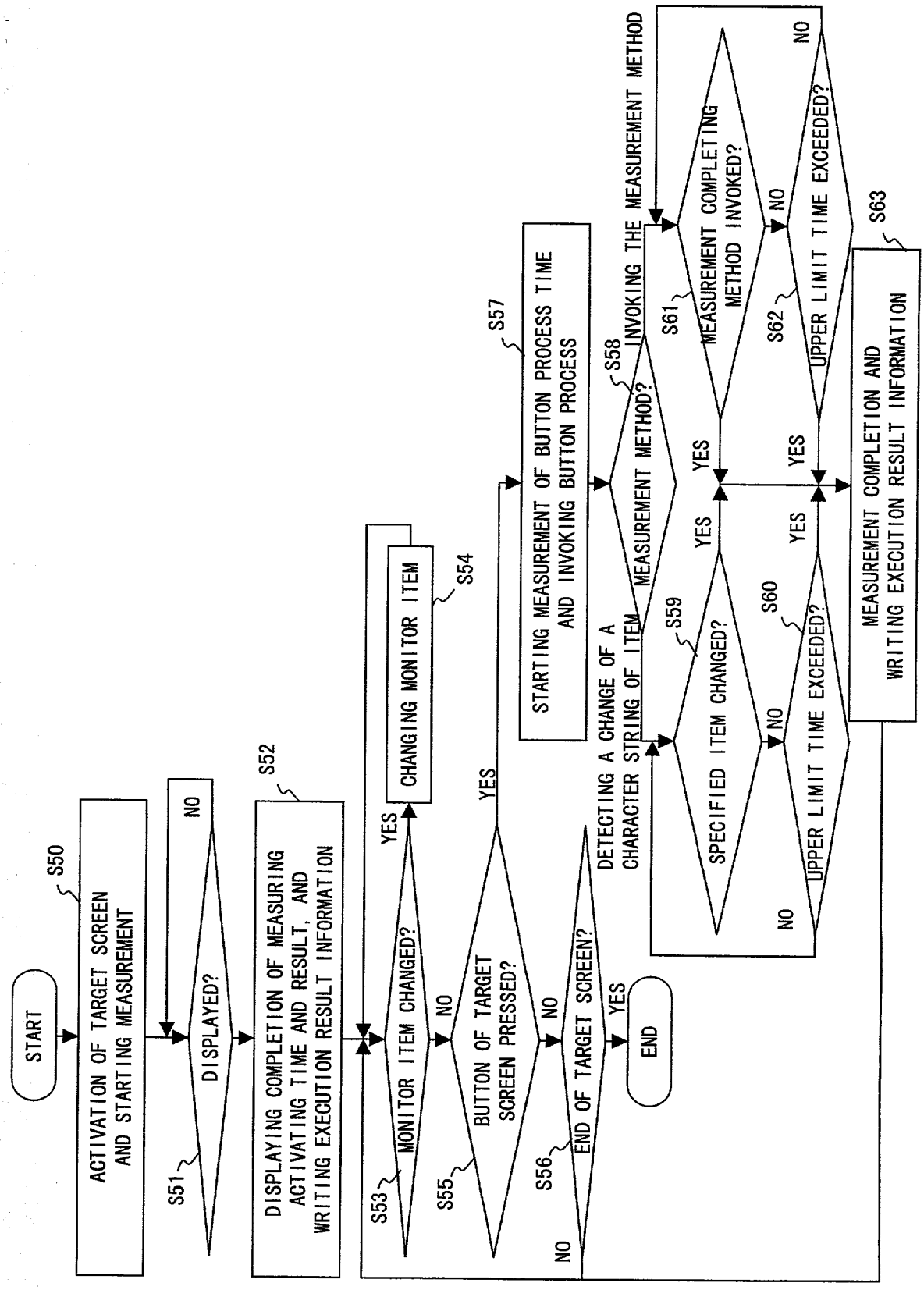


FIG. 30

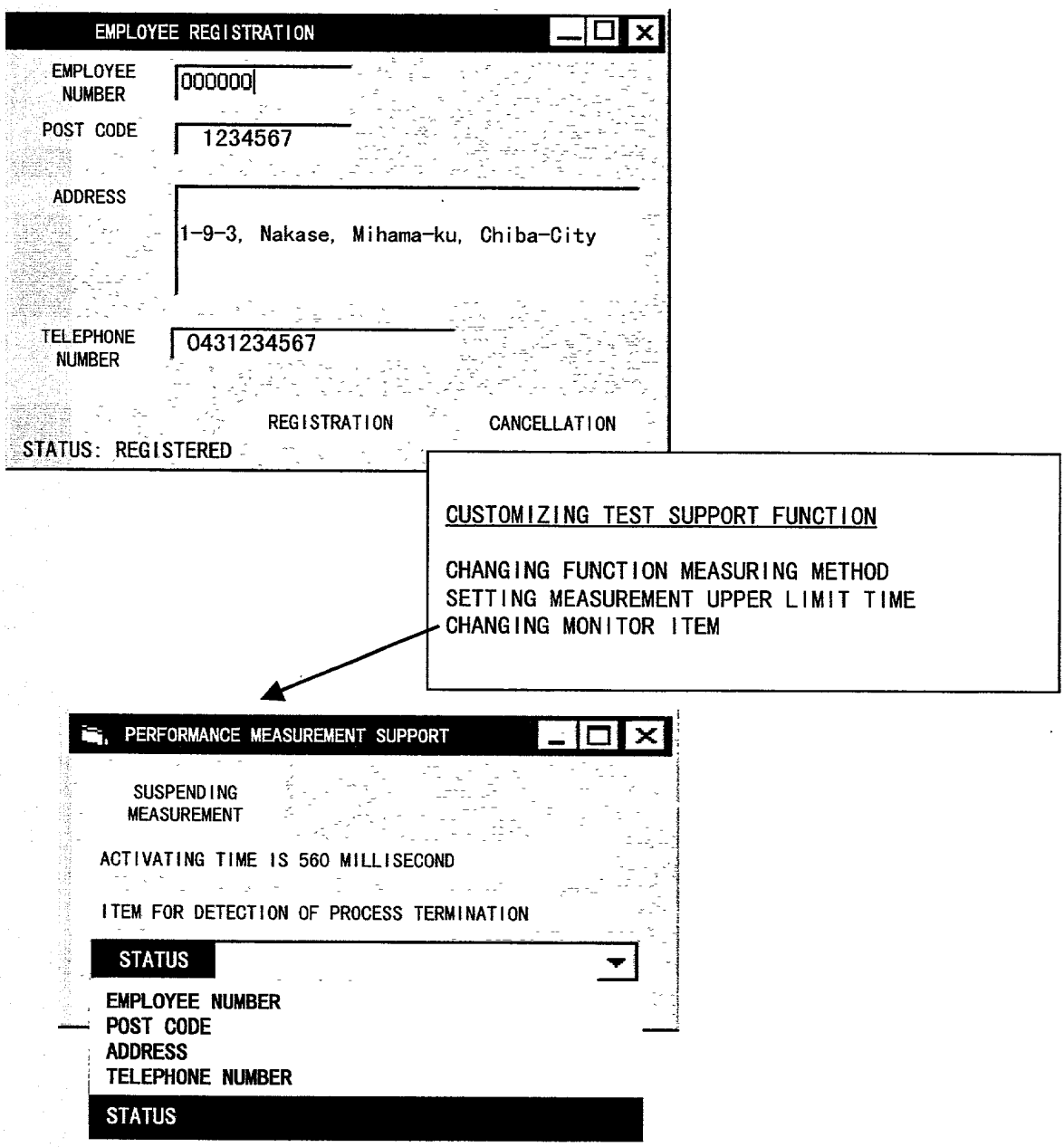

EMPLOYEE REGISTRATION
EMPLOYEE NUMBER
000000
POST CODE
1234567
ADDRESS
1-9-3, Nakase, Mihama-ku, Chiba-City
TELEPHONE NUMBER
0431234567
REGISTRATION
CANCELLATION
STATUS: REGISTERED
CUSTOMIZING TEST SUPPORT FUNCTION
CHANGING FUNCTION MEASURING METHOD
SETTING MEASUREMENT UPPER LIMIT TIME
CHANGING MONITOR ITEM
PERFORMANCE MEASUREMENT SUPPORT
SUSPENDING MEASUREMENT
ACTIVATING TIME IS 560 MILLISECOND
ITEM FOR DETECTION OF PROCESS TERMINATION
STATUS
EMPLOYEE NUMBER
POST CODE
ADDRESS
TELEPHONE NUMBER
STATUS

FIG. 31

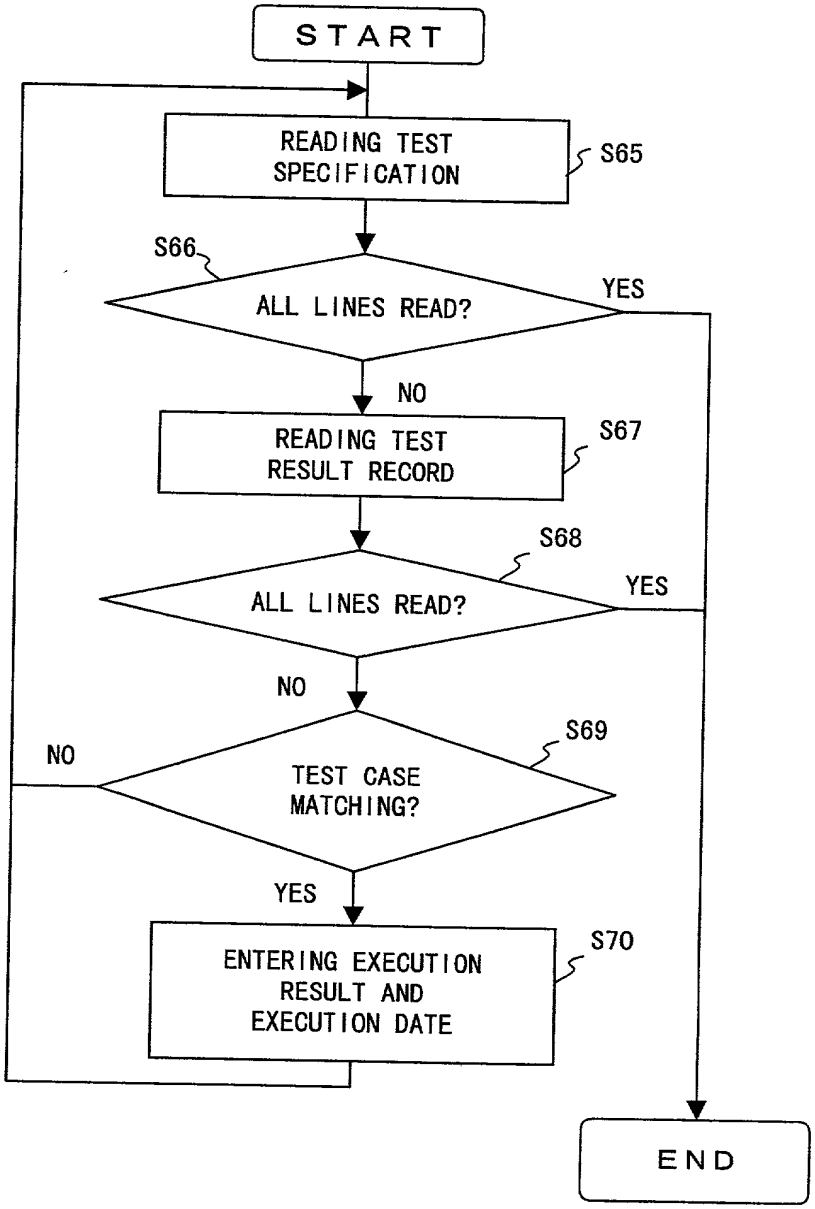

START
READING TEST SPECIFICATION
S65
S66
ALL LINES READ?
YES
NO
READING TEST RESULT RECORD
S67
S68
ALL LINES READ?
YES
NO
NO
S69
TEST CASE MATCHING?
YES
ENTERING EXECUTION RESULT AND EXECUTION DATE
S70
END

FIG. 32

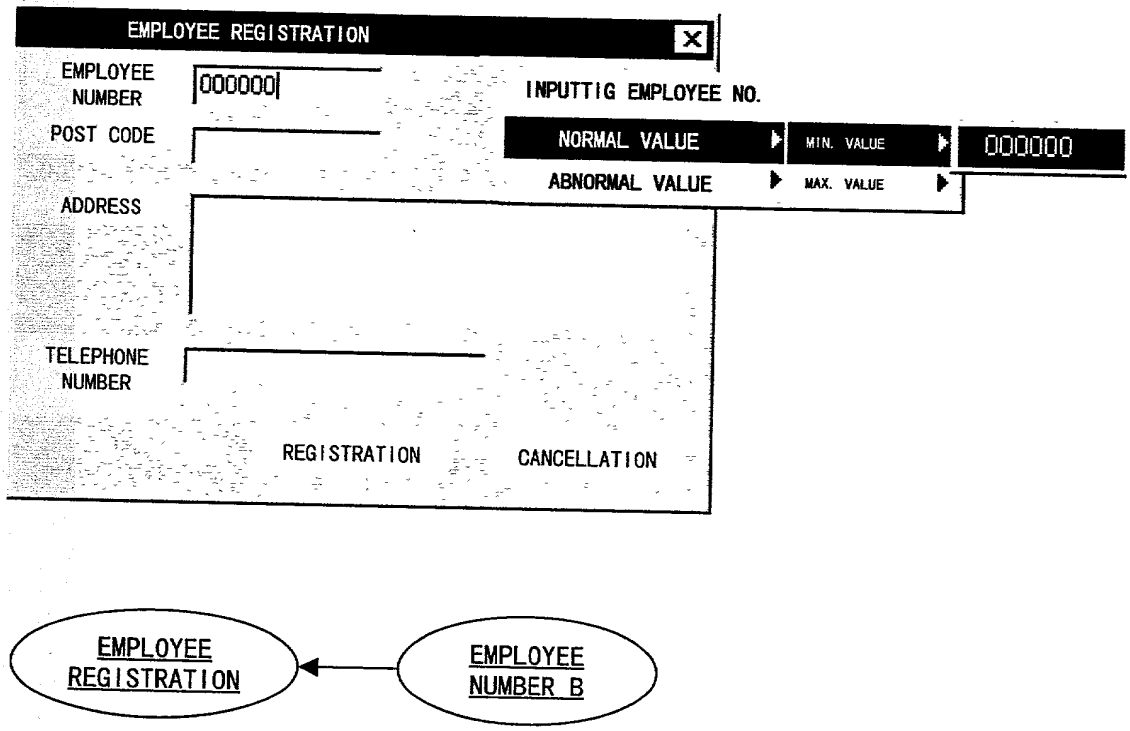
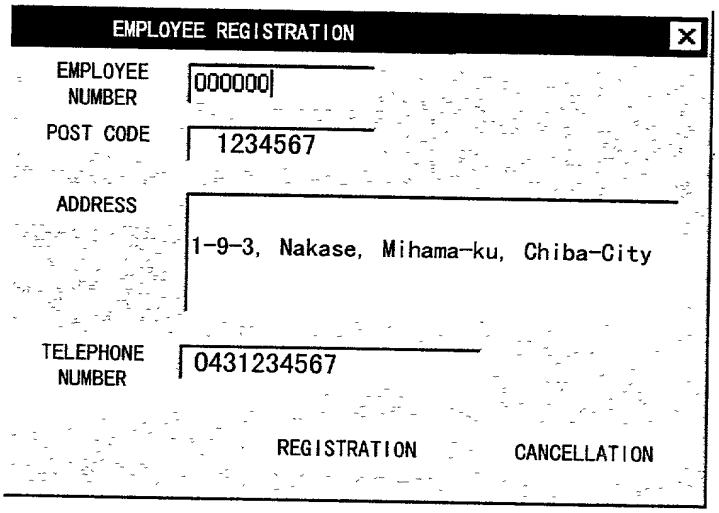

EMPLOYEE REGISTRATION
EMPLOYEE NUMBER
000000
INPUTTIG EMPLOYEE NO.
POST CODE
NORMAL VALUE
MIN. VALUE
000000
ABNORMAL VALUE
MAX. VALUE
ADDRESS
TELEPHONE NUMBER
REGISTRATION
CANCELLATION
EMPLOYEE REGISTRATION
EMPLOYEE NUMBER B

FIG. 33



EMPLOYEE REGISTRATION

FIG. 34

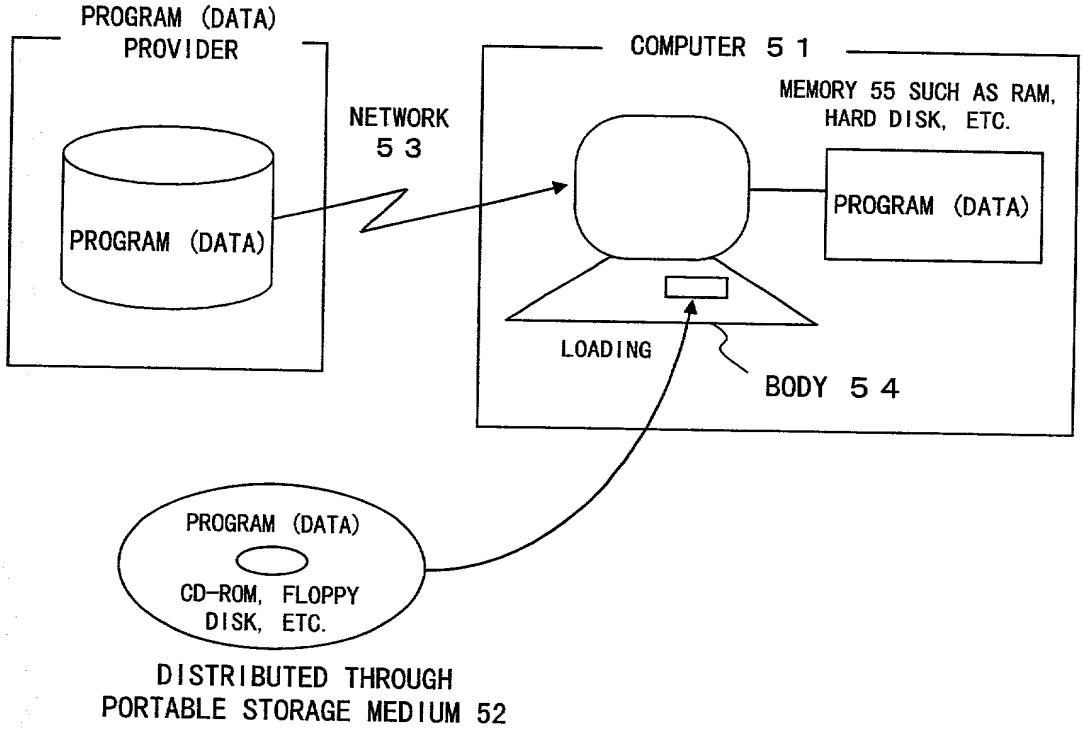

PROGRAM (DATA)
PROVIDER
PROGRAM (DATA)
NETWORK
53
COMPUTER 51
MEMORY 55 SUCH AS RAM,
HARD DISK, ETC.
PROGRAM (DATA)
LOADING
BODY 54
PROGRAM (DATA)
CD-ROM, FLOPPY
DISK, ETC.
DISTRIBUTED THROUGH
PORTABLE STORAGE MEDIUM 52

FIG. 35